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Three fingered gripper grasping analysis of different objects using fuzzy logic controller

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ABSTRACT
Three finger gripper movement analysis governs by fuzzy logic control and feedback control is the theme for this research. The research aims to analyze the performance of a three finger gripper in attempting to grasp different types of objects. The gripper must examined to keep balancing grasping technique when there are many types and sizes of objects. The analysis is enhanced with a feedback loop for the gripper system to grasp objects at different positions in their own coordinates. The sizes and angles for objects are predefined to avoid damage to the objects during grasping and are considered as inputs for the proposed system. The system output are the angles and torques values. To do this, Matlab SimMechanics and Simulink are used to design the gripper and investigate the gripper capability in grasping different objects. The results for different types of objects are discussed and the analysis shows that the gripper with fuzzy logic and feedback control can grasp each object firmly and effectively.

KEYWORDS
Feedback; Fuzzy logic controller; Three fingered gripper

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